

REMARKS

This amendment is responsive to the Office Action dated August 1, 2008. Applicant thanks Examiner Amiri for the analysis contained in the Office Action. Applicant has carefully considered cited art and the comments provided in the Office Action, and respectfully submits that the claims submitted herewith are patentable over the cited art. Reconsideration of the application is requested.

Claims 1-9 are pending in the present application. Claims 1-7 are currently being examined. Applicants have amended Claims 1 and 2.

Claims 8 and 9 are dependent claims that currently stand withdrawn but are subject to rejoinder upon allowance of their base claims.

Claims 1, 5/1, 6/1 and 7/1 currently stand rejected under 35 U.S.C. § 102(b) as being anticipated by Johnson (U.S. Patent No. 4,720,204). Applicants respectfully traverse the rejection.

Johnson teaches a breakaway device for use with a banner arm. When a lateral force is applied, the banner arm will break at the breakaway section (26). The Examiner has equated central bore 40 with the "cylindrical hollow part" claimed in Claim 1.

Claim 1 as amended defines the inner diameter of the cylindrical hollow part as equal to, or greater than, the internally threaded cavity. This feature is clearly shown in FIGS. 1, 2, and 3. The cylindrical hollow part is then weakened by a groove. This structure allows the shear coupling to have a larger groove diameter. One advantage of a larger break diameter is its ability to apply a greater torque by using the mechanical advantage of being further from the axis of rotation without breaking. For example, the shear coupling may be used on a rod string that powers a rotary pump. A larger groove diameter allows the desired amount of torque to be transferred to the pump without shearing.

If it becomes necessary to break the connection, the shear coupling may be separated by applying a sufficient axial force. While the shear strength in the axial direction relates primarily

to the amount of material in the groove's cross-section, the distance from the axis of rotation must also be considered when considering rotational forces. Thus, the rotational strength of the coupling may be increased by increasing the groove diameter.

Applicant submits that Johnson does not anticipate Claim 1. The groove is not on a hollow portion that has an inner diameter greater than the inner diameter of the threaded portion. Indeed, Johnson teaches away from this, as Johnson is unconcerned with forces in the axial direction, or with rotational forces. Instead, Johnson intends the narrow waist at the breakaway section (26) to act as a pivot point for any lateral forces that are applied to the banner arm, such that a smaller diameter is preferred. As Claim 1 is not anticipated by Johnson, applicant submits that Claims 5/1, 6/1 and 7/1 are also not anticipated.

Claim 2 currently stands rejected under 35 U.S.C. § 102(b) as being anticipated by Dirmeier et al. (U.S. Patent No. 5,938,383). Applicants respectfully traverse the rejection.

Dirmeier et al. teaches a connector assembly that is subject to fatigue fracture. A transition location (12) is provided with a groove such that any failure will occur at the groove. This allows a user to detect any failure due to fatigue by simply inspecting the transition location.

Applicant respectfully submits that Dirmeier et al. does not anticipate Claim 2. Claim 2 relates to a shear coupling and is intended to part when exposed to a predetermined desired load. Dirmeier et al. does not teach this. First, the hollow section (3) and transition location (12) are not a coupling. The bolt (5) extends past it and joins the hollow section (3) on either side of the transition location. As the hollow section (3) is only connected to a single component, it cannot be considered a "coupling." Second, the transition location taught by Dirmeier et al. is unable to part when exposed to a predetermined load. Instead, the transition location separates due to fatigue.

Fatigue occurs due to a plurality of alternating stresses (see Dirmeier et al., Col. 4, lines 18–19), or loads that are insufficient to cause the part to separate. By contrast, a shearing force

causes two bodies to separate by the application of a sufficiently large load. In order to shear the connector assembly taught by Dirmeier et al., it would be necessary to apply a force sufficient to shear both the hollow section as well as the bolt. Instead, Dirmeier et al. uses a weaker point to control where the inevitable fatigue will occur.

Applicant has also amended Claim 1 to refer to the groove being positioned at an unthreaded portion of the hollow body. Dirmeier et al. does not teach this, but rather teaches a hollow portion with a continuous thread. Since the hollow portion is intended to retain the bolt, it would be counter-productive to provide an unthreaded portion, as it would increase the difficulty of production, and would also weaken its hold on the bolt. The claimed shear coupling is intended to connects to threaded bodies at each end, which is inherent in its description as a "coupling." Dirmeier et al., by contrast, receives a single bolt along the length of the hollow section, and does not act as a coupling, nor does Dirmeier et al. have an unthreaded portion corresponding to this section.

For at least the foregoing reasons, applicant submits that Claim 2 is not anticipated by Dirmeier et al. and should be allowed.

Claims 3/1 and 4/1 currently stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Johnson in view of Uramoto et al. (U.S. Patent No. 4,642,011). Applicants respectfully traverse the rejection.

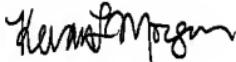
Claims 3/1 and 4/1 are patentable for at least the same reasons discussed above with respect to Claim 1. Claims 3 and 4 are also patentable for the additional subject matter they recite. Uramoto et al. describes rust inhibitors and does not make up the deficiencies described above with respect to Johnson. Applicant therefore submits that Claims 3/1 and 4/1 are patentable over Johnson in view of Uramoto et al.

CONCLUSION

In view of the foregoing amendments, it is respectfully submitted that the present application is in condition for allowance. Furthermore, with the allowability of Claims 1 and 2, applicant respectfully requests rejoinder and allowance of all withdrawn claims that depend therefrom. The applicant, therefore, requests the early issue of a Notice of Allowance for this application.

Respectfully submitted,

CHRISTENSEN O'CONNOR
JOHNSON KINDNESS^{PLLC}



Kevan L. Morgan
Registration No. 42,015
Direct Dial No. 206.695.1712

KLM:sjt